Diode—Sharp-Cutoff Pentode

With Heater Having Controlled Warm-Up Time

GENERAL DATA

Electrical:

Heater Characteristics and Ratings *(Design-Maximum Values)*:

Voltage (AC or DC)	6.3[a]	6.3 ± 0.6	volts
Current	0.450 ± 0.030	0.450[b]	amp
Warm-up time (Average)	11	-	sec
Peak heater-cathode voltage (Each unit):			
Heater negative with respect to cathode		200 max.	volts
Heater positive with respect to cathode		200[c] max.	volts

Direct Interelectrode Capacitances:[d]

Diode Unit:		
Plate to cathode and heater	2.4	μμf
Cathode to plate and heater	3.0	μμf
Pentode Unit:		
Grid No.1 to plate	0.015 max.	μμf
Grid No.1 to cathode, grid No.3 & internal shield, grid No.2, and heater	7.0	μμf
Plate to cathode, grid No.3 & internal shield, grid No.2, and heater	3.2	μμf
Diode plate to pentode grid No.1	0.005 max.	μμf
Diode cathode to pentode plate	0.15 max.	μμf
Diode plate to pentode plate	0.035 max.	μμf

Characteristics, Class A_1 Amplifier:

Plate Supply Voltage	125	volts
Grid No.3	*Connected to cathode at socket*	
Grid-No.2 Supply Voltage	125	volts
Cathode Resistor	56	ohms
Plate Resistance (Approx.)	0.2	megohm
Transconductance	9300	μmhos
Plate Current	11.5	ma
Grid-No.2 Current	3.6	ma
Grid-No.1 Voltage (Approx.) for plate μa = 20	-6	volts
Grid-No.1 Voltage (Approx.) for plate ma. = 2, and cathode resistor (ohms) = 0	-3	volts

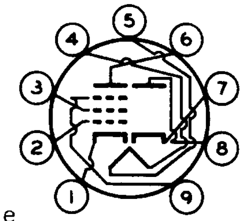
Mechanical:

Operating Position	Any
Type of Cathodes	Coated Unipotential
Maximum Overall Length	2-3/16"
Maximum Seated Length	1-15/16"
Length, Base Seat to Bulb Top (Excluding tip)	1-9/16" ± 3/32"

6HJ8

Diameter	0.750" to 0.875"
Dimensional Outline	See *General Section*
Bulb	T6-1/2
Base	Small-Button Noval 9-Pin (JEDEC No.E9-1)
Basing Designation for BOTTOM VIEW	9CY

Pin 1 - Pentode Cathode
Pin 2 - Pentode Grid No.1
Pin 3 - Pentode Grid No.2
Pin 4 - Heater
Pin 5 - Heater
Pin 6 - Pentode Plate



Pin 7 - Diode Cathode
Pin 8 - Diode Plate
Pin 9 - Pentode Grid No.3, Internal Shield

PENTODE UNIT — Class A$_1$ Amplifier

Maximum Ratings, *Design-Maximum Values:*

PLATE VOLTAGE	330	max.	volts
GRID No.3 (SUPPRESSOR GRID)	*Connect to cathode at socket*		
GRID-No.2 (SCREEN-GRID) SUPPLY VOLTAGE	330	max.	volts
GRID-No.2 VOLTAGE	See *Grid-No.2 Input Rating Chart* at front of Receiving Tube Section		
GRID-No.1 (CONTROL-GRID) VOLTAGE:			
Positive-bias value	0	max.	volts
GRID-No.2 INPUT:			
For grid-No.2 voltages up to 165 volts	0.55	max.	watt
For grid-No.2 voltages between 165 and 330 volts	See *Grid-No.2 Input Rating Chart* at front of Receiving Tube Section		
PLATE DISSIPATION	3.2	max.	watts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:			
For fixed-bias operation	0.25	max.	megohm
For cathode-bias operation	1	max.	megohm

DIODE UNIT

Maximum Ratings, *Design-Maximum Values:*

DC PLATE CURRENT	5	max.	ma

Characteristics, Instantaneous Value:

Plate Current for plate volts = 10	50	ma

[a] At heater amperes = 0.450.
[b] At heater volts = 6.3.
[c] The dc component must not exceed 100 volts.
[d] Without external shield.